

# Selecting an Access and Digital Preservation Platform for Humanities Research in Audio and Video Format: Avalon & Archivematica

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Literary Audio Symposium

3 December 2016

Concordia University

**Jared Wiercinski, Tomasz Neugebauer and Tim Walsh**

# Context

- Kathleen Shearer's 3 aspects of research data management
  - Policies
  - Culture
  - Infrastructure
- Role of libraries
- Cultural and political dimensions



**WE CAN'T JUST  
BUILD THE RIGHT  
SYSTEM. DIGITAL  
PRESERVATION IS  
NOT PRIMARILY A  
TECHNICAL  
PROBLEM.**

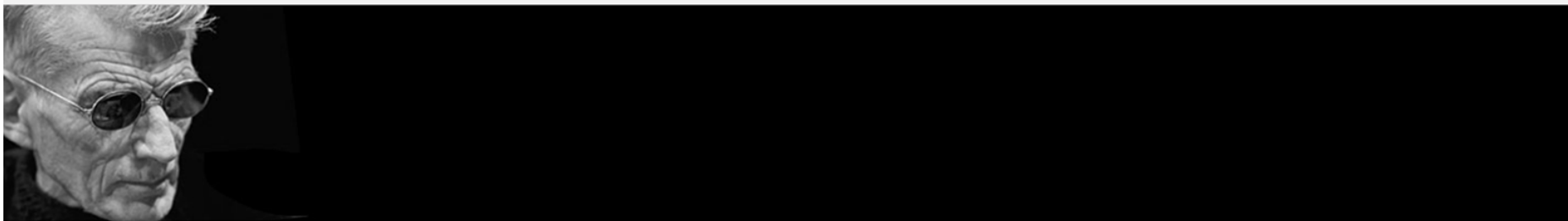
*Figure 1 ENIAC: General view, with Portable Function Table in foreground*

# PASS *the* HEADPHONES

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Title	Dir/Artist	Yr	Genres	Flag	Comm num/last	Upper	Added	Files	Size	Got	Sd	Lch
<b>Stalker [+Extras]</b> Subs: Main feature: En , Es, Fr, Ru, It, Nl, Ja, Sv, De, Pt, Iw, Zh & Ar. Extras: En , Fr, It, Es & Nl., Brazilian Pt, Hr, Hu, Ro, Es, Tr, Tr, Tr	Andrei Tarkovsky	1979	Sci-Fi Philosophy		190 Mar 7 '16	Daeron	Jul 8 '06	38	2.48GB	4,995 times	74	6
<b>L'héritage de la chouette</b> Subs: ★En, Fr over non-Fr audio, En	Chris Marker	1989	Documentary Philosophy		122 Oct 6 '16	arturobandini	Oct 31 '09	13	4.42GB	4,318 times	71	1
<b>Le feu follet AKA The Fire Within [+Extras]</b> Subs: En , Es, Tr	Louis Malle	1963	Arthouse Drama		79 Oct 6 '16	blakswan	May 6 '09	10	2.16GB	4,044 times	49	4
<b>Ohayô aka Good Morning [+Extras]</b> Subs: En , En, Español, Fr, Es	Yasujiro Ozu	1959	Comedy Asian		65 Mar 25 '15	damascus	May 22 '09	6	1.32GB	3,408 times	55	0

# UbuWeb




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# Introduction + Context

- Concordia Library
- Center for Oral History and Digital Storytelling
- Digital preservation
  - What is it?
  - Why it is important?
  - Digital Preservation for Audio

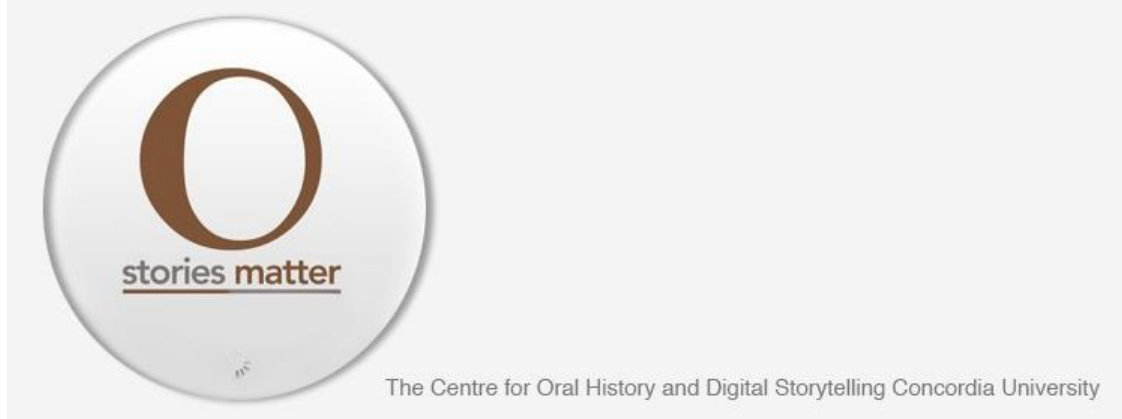
# Concordia Library

- Spectrum Research Repository (EPrints) The logo for EPrints, featuring a stylized 'e' in a blue square followed by the word 'prints' in blue, with the URL 'www.eprints.org' in orange below it.
- Special Collections (Atom) The logo for Atom, featuring the word 'atom' in white lowercase letters on an orange rectangular background.The logo for Artefactual, featuring the word 'artefactual' in blue lowercase letters with a small orange 'a' on a light gray rectangular background.
- Streaming Media Course Reserves (Helix / Medial )





# Concordia University



*SpokenWeb*

# Digital Preservation Definition

Digital preservation is the series of management policies and activities necessary to ensure the **enduring usability, authenticity, discoverability and accessibility** of content over the very long term.

AIR CANADA

AIR CANADA

## Itinerary / Receipt

Your booking is confirmed. Thank you for choosing Air Canada.  
Please print this Itinerary / receipt for your reference.

## Main Contact Information

Name: Mr. Kalle Mawjovich  
E-mail: BLAVDQ@NOR.CA  
Phone of payment: CC 40000000000000000000

## Booking reference

Customer Code  
Air Canada Member  
40000000000000000000

Electronic ticketing confirmed.  
This is your official Itinerary/Receipt.

## Flight Itinerary

Flight	From	To	Aircraft	Booking class
AC657	St. John's (YYT)	Halifax (YHZ)		Y
Thu 07 Oct 2010 20:55				
Seat number(s) requested:	17D			
AC680	Halifax (YHZ)	London Heathrow (LHR) (LHR)		Y
Thu 07 Oct 2010 23:45				
Seat number(s) requested:	17C			
AC689	London Heathrow (LHR) (LHR)	Toronto Pearson (YYZ)		Y
Thu 14 Oct 2010 18:00 - 19:00, T1 INTL				
Seat number(s) requested:	22D			
AC698	Toronto Pearson (YYZ)	St. John's (YYT)		Y
Thu 14 Oct 2010 22:55 - 19:00, T1 INTL				
Seat number(s) requested:	21D			

## Passenger Information

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## Adobe Reader

Cannot find or create the font 'Verdana'. Some characters may not display or print correctly.

OK

## Windows Media Player



Windows Media Player cannot play the file. The Player might not support the file type or might not support the codec that was used to compress the file.

Close

Web Help

R\_20141020-002607.wav

R\_20141215-012728.wav

Dec 31, 1969, 6:00 PM

Zero bytes

Waveform audio

Dec 31, 1969, 6:00 PM

Zero bytes

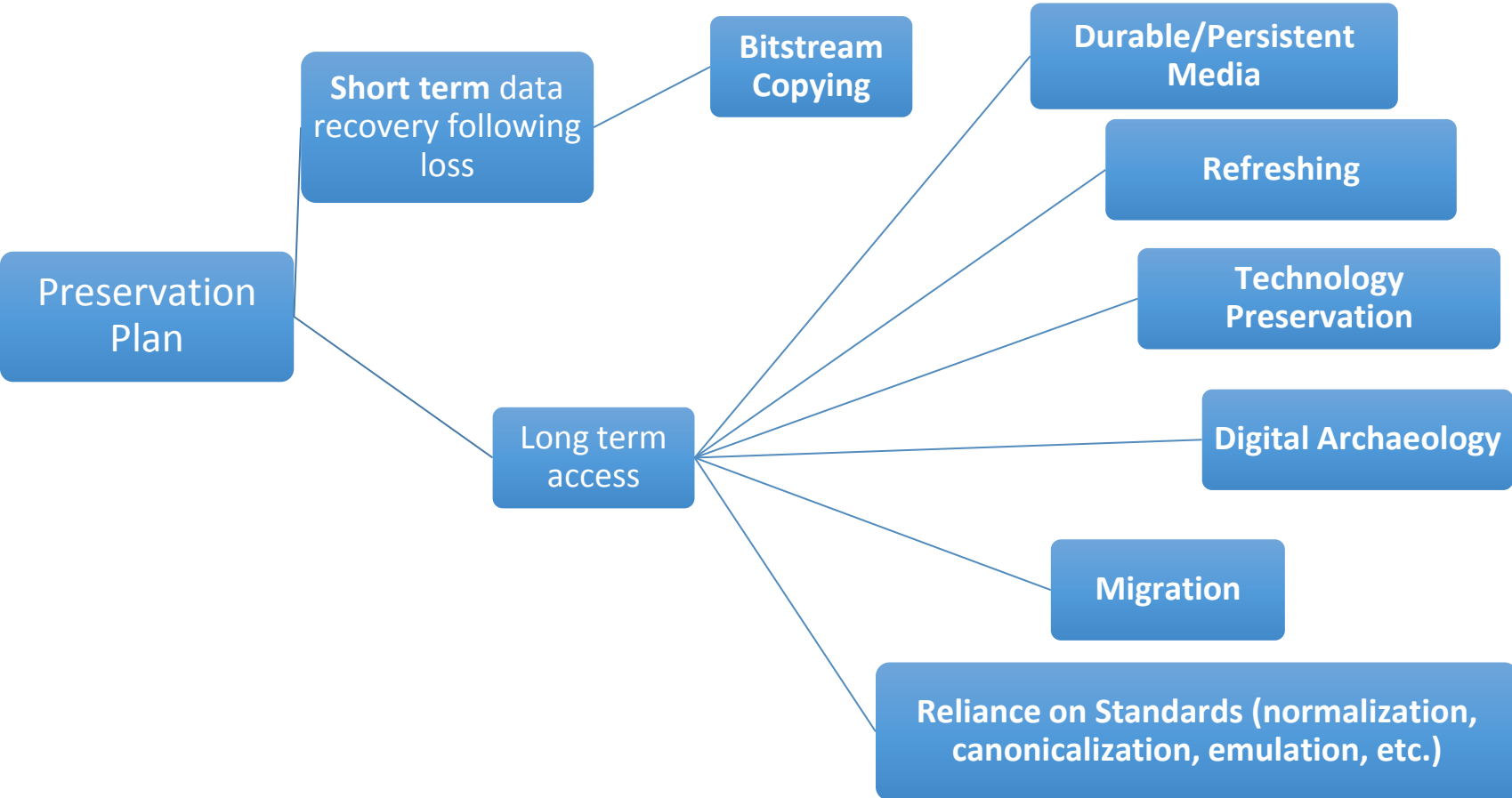
Waveform audio

X

The video could not be loaded, either because the server or network failed or because the format is not supported.



# Digital Preservation Strategies



# METADATA

- MARC



**Code List for Relators**

LIBRARY OF CONGRESS, NETWORK DEVELOPMENT & MARC STANDARDS OFFICE

- EAD

**VRA Core 4 Example 51: Public performance art**

- DC

**AudioMD and VideoMD - Technical Metadata for Audio and Video**



Descriptive

Structural

Administrative  
(preservation  
metadata)

# METADATA

- File Section + Structural Map

```
<structMap TYPE="logical">
  <div ID="div1" LABEL="Oral History: Mayor Abraham Beame"
    TYPE="oral history">
    <div ID="div1.1" LABEL="Interviewer Introduction"
      ORDER="1">
      <fptr FILEID="FILE001">
        <area FILEID="FILE001" BEGIN="INTVWBG" END="INTVWND"
          BETYPE="IDREF" />
      </fptr>
      <fptr FILEID="FILE002">
        <area FILEID="FILE002" BEGIN="00:00:00" END="00:01:47"
          BETYPE="TIME" />
      </fptr>
      <fptr FILEID="FILE003">
        <area FILEID="FILE003" BEGIN="00:00:00" END="00:01:47"
          BETYPE="TIME" />
      </fptr>
    </div>
    <div ID="div1.2" LABEL="Family History" ORDER="2">
      <fptr FILEID="FILE001">
        <area FILEID="FILE001" BEGIN="FHBG" END="FHND"
          BETYPE="IDREF" />
      </fptr>
      <fptr FILEID="FILE002">
        <area FILEID="FILE002" BEGIN="00:01:48" END="00:06:17"
          BETYPE="TIME" />
      </fptr>
    </div>
  </div>
</structMap>
```



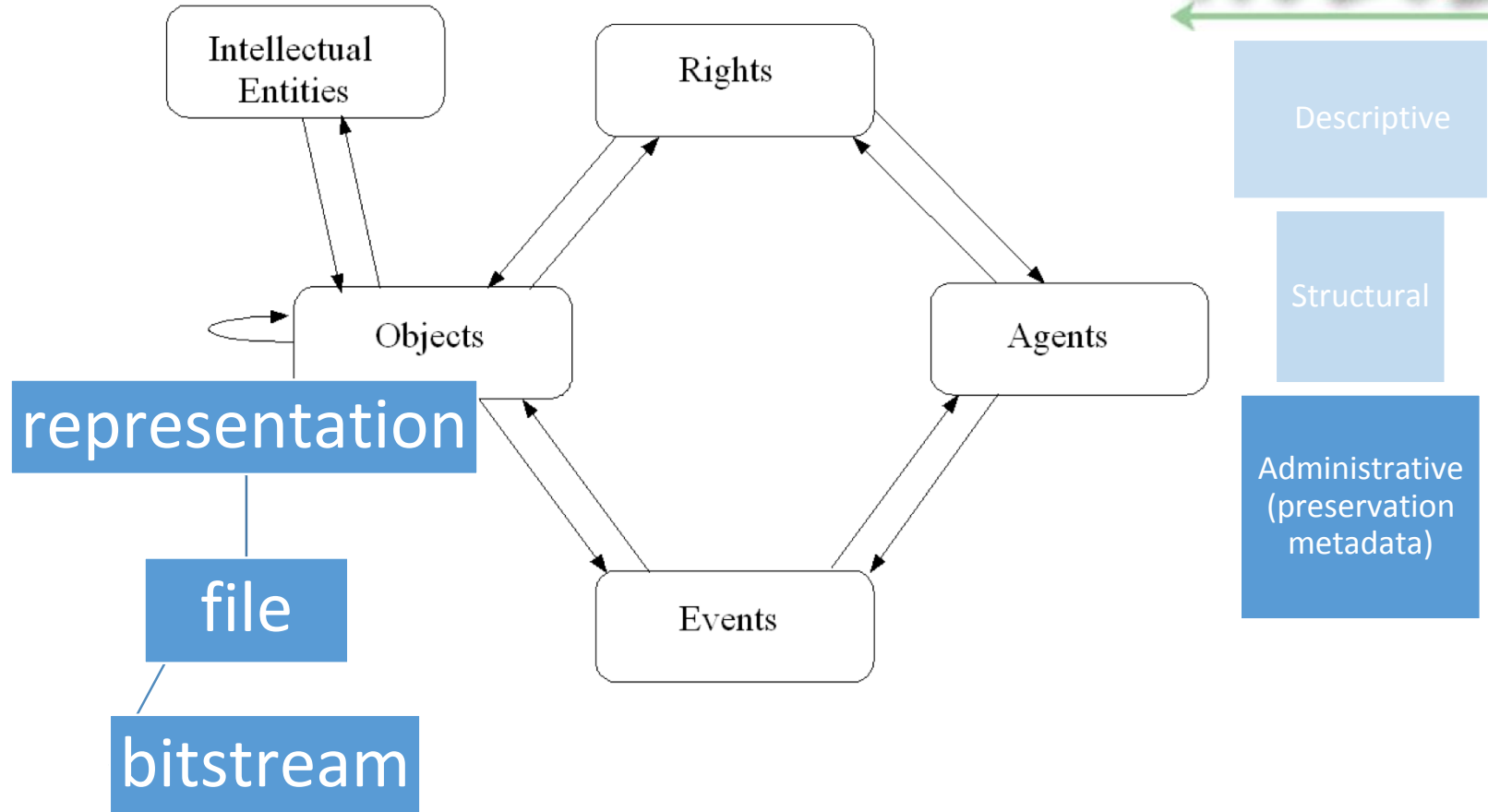
Descriptive

Structural

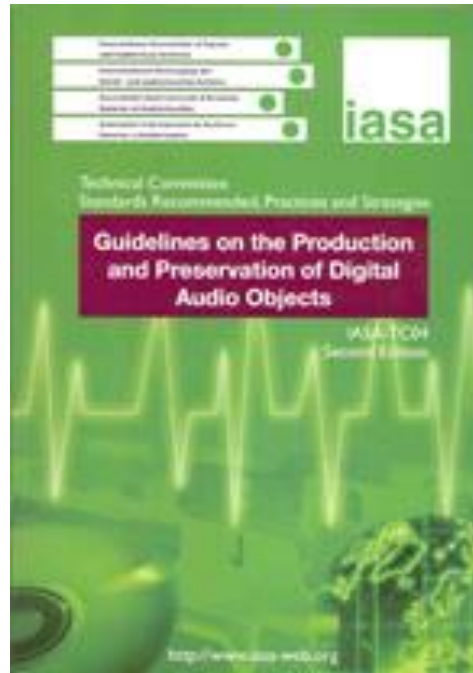
Administrative  
(preservation  
metadata)

# Preservation Metadata Model: PREMIS

*METS*



# Digital Preservation - Key Resources



P R E M I S

PRESERVATION METADATA  
MAINTENANCE ACTIVITY

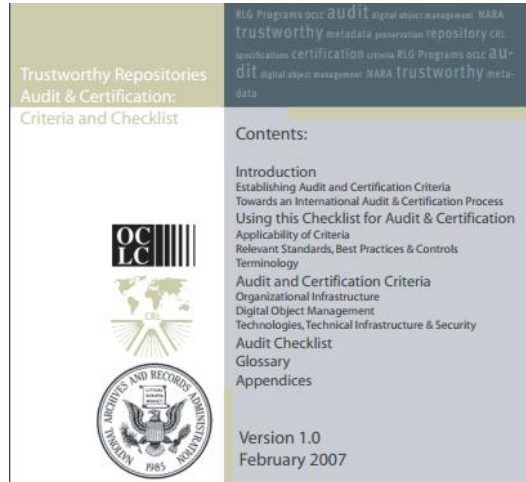
The PREMIS Data Dictionary for Preservation Metadata is the international standard for metadata to support the preservation of digital objects and ensure their long-term usability. Developed by an international team of experts, PREMIS is implemented in digital preservation projects around the world, and support for PREMIS is incorporated into a number of commercial and open-source digital preservation tools and systems. The PREMIS Editorial Committee coordinates revisions and implementation of the standard, which consists of the Data Dictionary, an XML schema, and supporting documentation.



The Consultative Committee for Space Data Systems

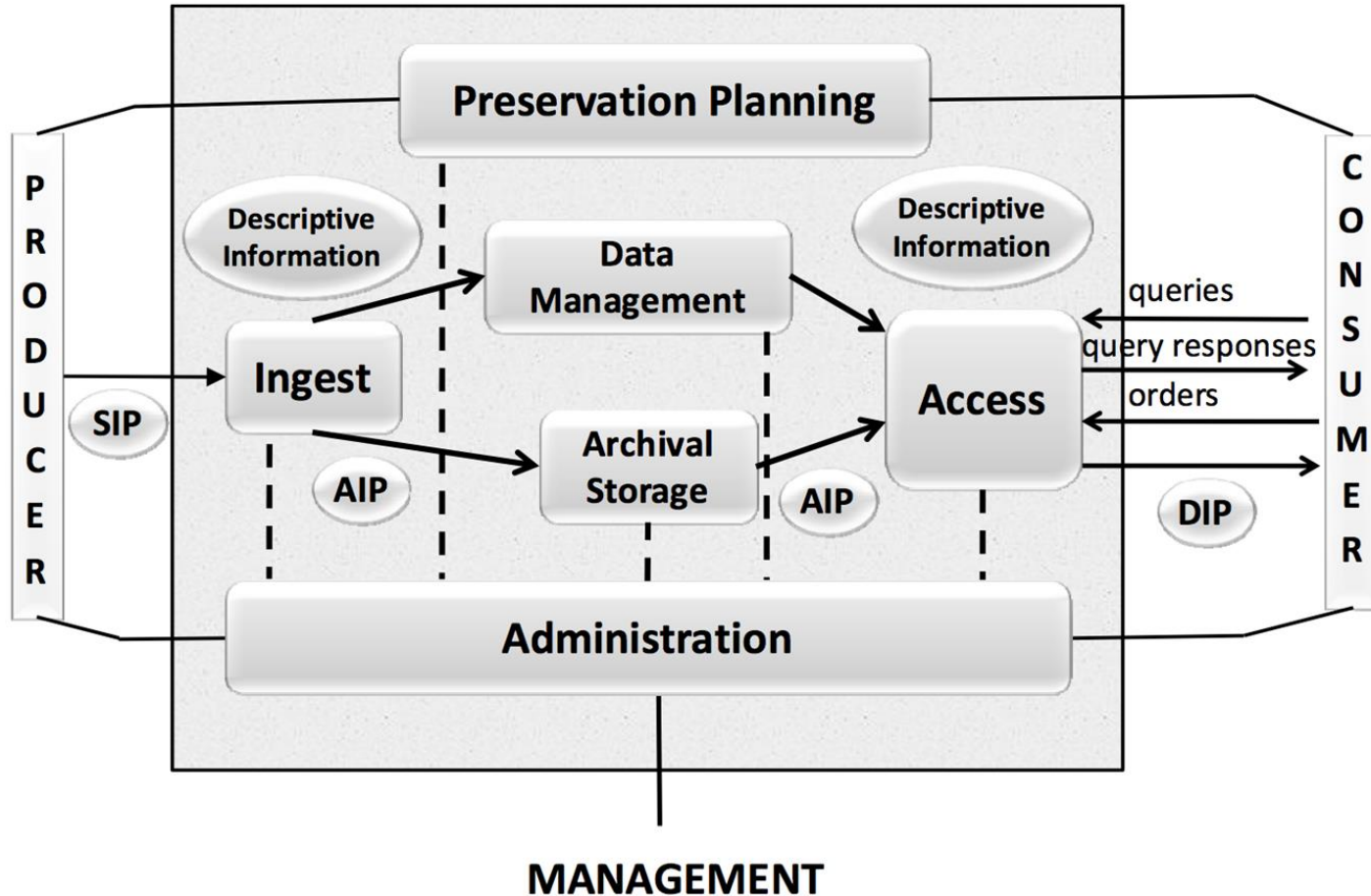
Recommendation for Space Data System Practices

REFERENCE MODEL FOR AN  
OPEN ARCHIVAL  
INFORMATION SYSTEM (OAIS)





# OAIS: Open Archival Information System



# Digital preservation systems



Standard ▾

Type

Transfer name

Accession no.

/home ▾



Browse

Start transfer

Transfer

UUID

Transfer start time

✓ packaging-example	ded5546a-2d46-441d-bfca-b6898b9f3112	2016-11-14 14:42	 
▸ Micro-service: Create SIP from Transfer			
▸ Micro-service: Complete transfer			
▸ Micro-service: Examine contents			
▸ Micro-service: Validation			
▸ Micro-service: Characterize and extract metadata			
▸ Micro-service: Update METS.xml document			
▸ Micro-service: Extract packages			
▸ Micro-service: Identify file format			
▸ Micro-service: Clean up names			
▸ Micro-service: Generate transfer structure report			
▸ Micro-service: Scan for viruses			
▸ Micro-service: Quarantine			
▸ Micro-service: Generate METS.xml document			
▸ Micro-service: Verify transfer checksums			
▸ Micro-service: Reformat metadata files			
▸ Micro-service: Assign file UUIDs and checksums			
▸ Micro-service: Include default Transfer processingMCP.xml			
▸ Micro-service: Rename with transfer UUID			
▸ Micro-service: Verify transfer compliance			
▸ Micro-service: Approve transfer			

# Community - Users



# Community - Supporters/Developers

## bounty model



# Microservices



# What do these microservices do?

- Transfer (verify, assign UUIDs and checksums, extract, characterize)
- Ingest (identify, verify, characterize, normalise, validate, package, store)
- Manage (search, download, re-ingest, update metadata, create access packages, verify fixity of holdings)
- Preservation planning (file format policies, rules, tools)
- Administer users and use

# OAIS model

archivematica

Transfer<sup>42</sup>

Ingest<sup>3</sup>

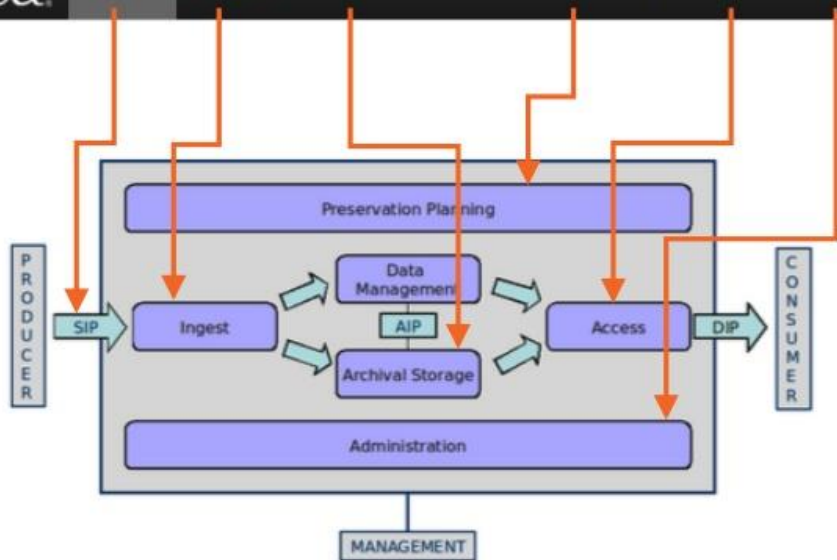
Archival storage

Preservation planning

Access

Administration

demo@example.com ▾

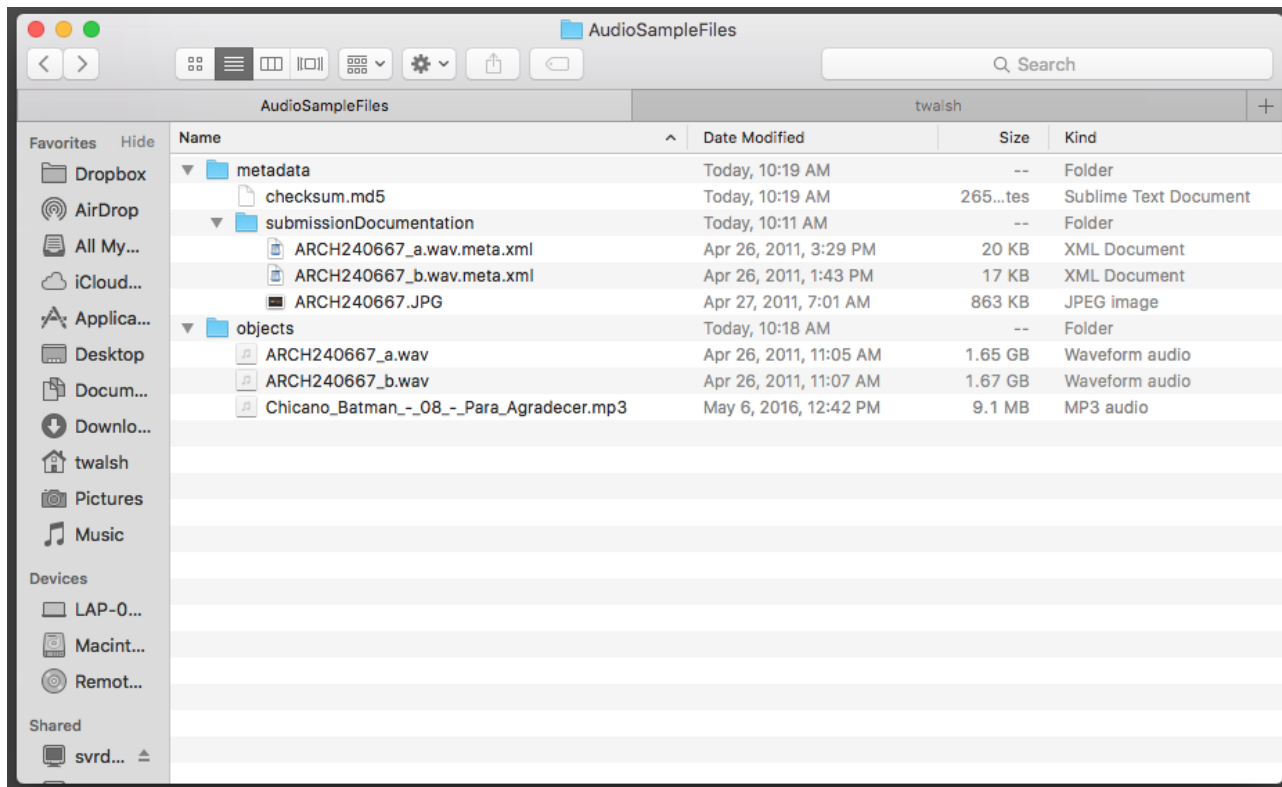



















# ARCHIVEMATICA WALKTHROUGH

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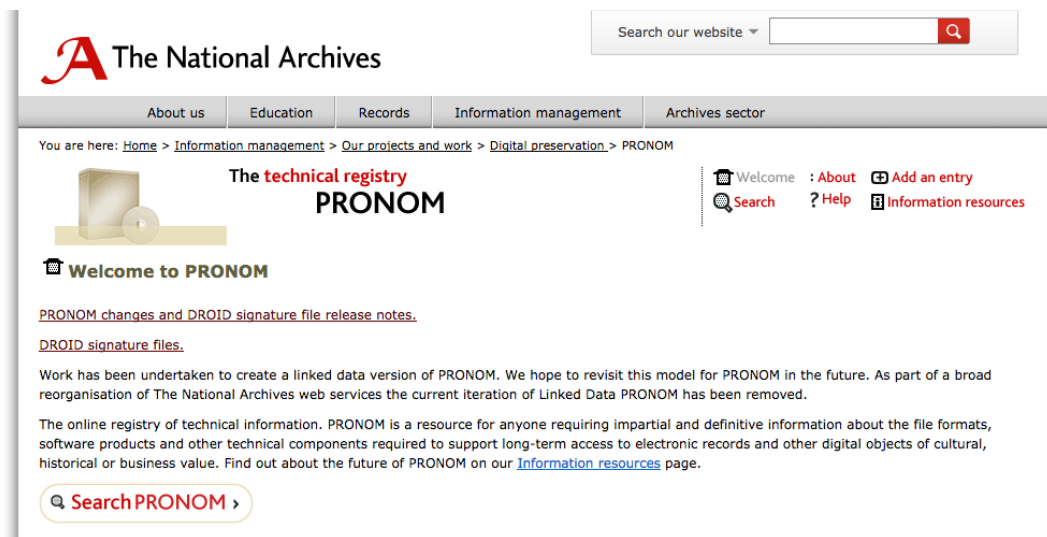
# Transfer



# Verify

▼ Micro-service: Scan for viruses		
Job: Scan for viruses	Completed successfully	
Job: Move to processing directory	Completed successfully	
▶ Micro-service: Quarantine		
▶ Micro-service: Generate METS.xml document		
▼ Micro-service: Verify transfer checksums		
Job: Verify metadata directory checksums	Completed successfully	
▶ Micro-service: Reformat metadata files		
▼ Micro-service: Assign file UUIDs and checksums		
Job: Assign checksums and file sizes to objects	Completed successfully	
Job: Assign file UUIDs to objects	Completed successfully	
Job: Set file permissions	Completed successfully	
▶ Micro-service: Include default Transfer processingMCP.xml		
▶ Micro-service: Rename with transfer UUID		
▼ Micro-service: Verify transfer compliance		
Job: Verify mets_structmap.xml compliance	Completed successfully	
Job: Verify transfer compliance	Completed successfully	
Job: Attempt restructure for compliance	Completed successfully	
Job: Remove unneeded files	Completed successfully	
Job: Remove hidden files and directories	Completed successfully	
Job: Set transfer type: Standard	Completed successfully	
Job: Move to processing directory	Completed successfully	
Job: Set file permissions	Completed successfully	
▼ Micro-service: Approve transfer		
Job: Approve standard transfer	Completed successfully	

# Identify



The screenshot shows the The National Archives website. At the top is a search bar with the text "Search our website" and a magnifying glass icon. Below the search bar is a navigation menu with links: "About us", "Education", "Records", "Information management", and "Archives sector". The main content area has a breadcrumb trail: "You are here: Home > Information management > Our projects and work > Digital preservation > PRONOM". The title "The technical registry PRONOM" is displayed, accompanied by an icon of a box and a disc. To the right of the title are links: "Welcome", "About", "Add an entry", "Search", "Help", and "Information resources". Below the title is a "Welcome to PRONOM" section. It contains two links: "PRONOM changes and DROID signature file release notes." and "DROID signature files.". A paragraph of text follows: "Work has been undertaken to create a linked data version of PRONOM. We hope to revisit this model for PRONOM in the future. As part of a broad reorganisation of The National Archives web services the current iteration of Linked Data PRONOM has been removed." Another paragraph states: "The online registry of technical information. PRONOM is a resource for anyone requiring impartial and definitive information about the file formats, software products and other technical components required to support long-term access to electronic records and other digital objects of cultural, historical or business value. Find out about the future of PRONOM on our [Information resources](#) page." At the bottom of this section is a search button labeled "Search PRONOM".




## STDOUT

```
IDCommand UUID: 9d2cefc1-2bd2-44e4-8d55-6cf8151eecff
File: (d3d0bcd5-8d42-4fec-9ec7-7568aaa054d7) /var/archivematica/sharedDirectory/watchedDirectories/workFlowDecisions
/selectFormatIDToolTransfer/AudioSampleFiles-d3b7fee7-c4f8-443b-81ef-6ad5b8cb9f84/objects/ARCH240667_b.wav
fmt/704

Command output: fmt/704
/var/archivematica/sharedDirectory/watchedDirectories/workFlowDecisions/selectFormatIDToolTransfer/AudioSampleFiles-d3b7fee7-
c4f8-443b-81ef-6ad5b8cb9f84/objects/ARCH240667_b.wav identified as a BWAPE PCM 1
```

# Characterize and Validate

 [Transfer](#) [Ingest](#) [Archival storage](#) [Preservation planning](#) [Access](#) [Administration](#) [tim.walsh](#)

---

Task UUID: 82b41987-0673-47d9-8645-080a5f295a63  
File UUID: 115be90c-5d94-4b3c-a43a-8a65e4193675  
File name: ARCH240667\_a.wav  
Client: CST-ARCH-01\_2  
(exit code: 0)

Start time: 2016-11-21, 10:35:44 AM  
End time: 2016-11-21, 10:35:47 AM  
Created time: 2016-11-21, 10:35:44 AM  
Duration: 3 second(s)

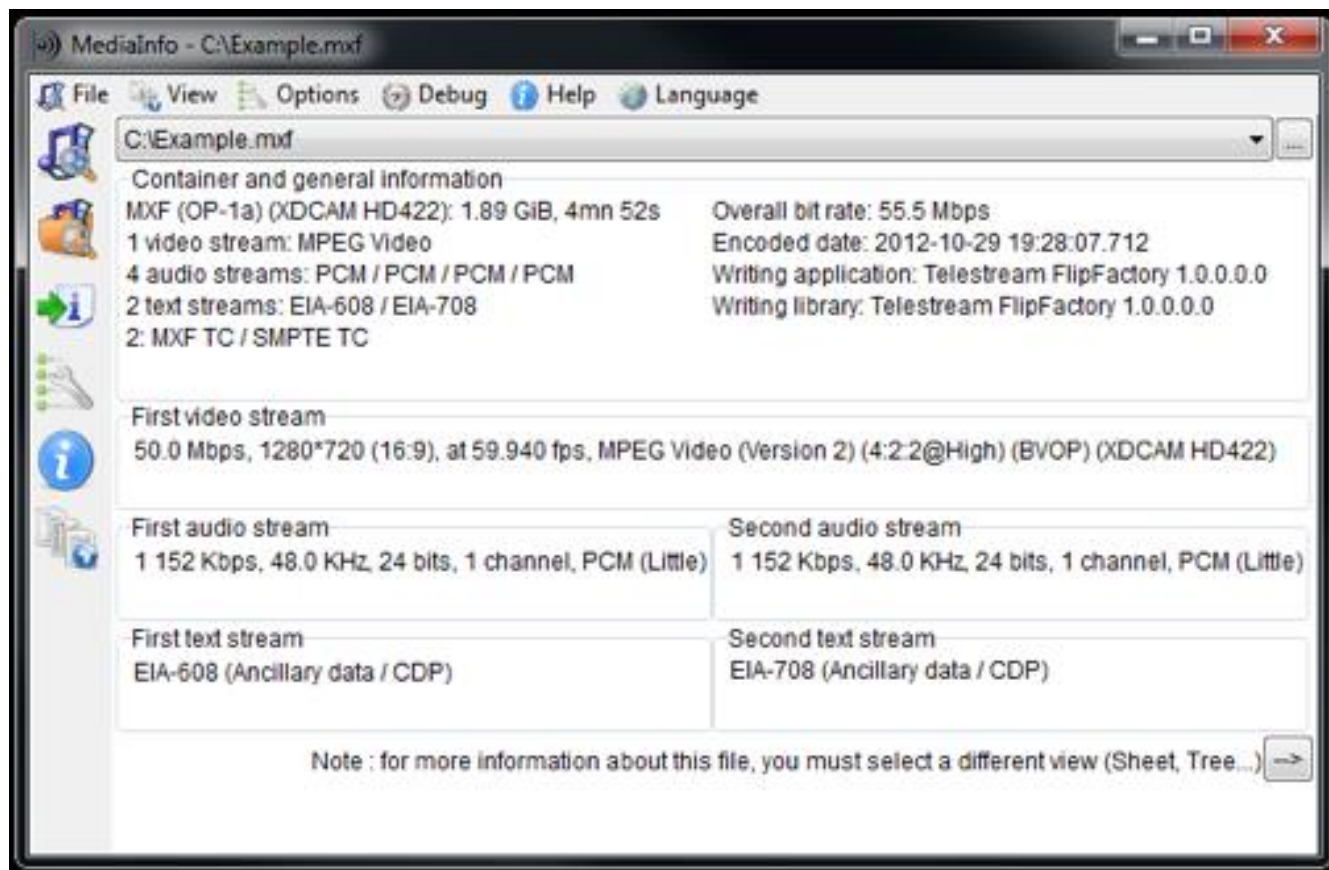
---

Command: characterizeFile\_v0.0 "/var/archivematica/sharedDirectory/watchedDirectories/workFlowDecisions/extractPackagesChoice/AudioSampleFiles-e2acffce-3030-4b9c-87fc-4f64b09f5cc3/objects/ARCH240667\_a.wav" "115be90c-5d94-4b3c-a43a-8a65e4193675" "e2acffce-3030-4b9c-87fc-4f64b09f5cc3"

---

STDOUT

```
<?xml version="1.0" encoding="UTF-8"?>
<MediaInfo version="0.7.67">
<File>
<track type="General">
<Count>284</Count>
<Count_of_stream_of_this_kind>1</Count_of_stream_of_this_kind>
<Kind_of_stream>General</Kind_of_stream>
<Kind_of_stream>General</Kind_of_stream>
<Stream_identifier>0</Stream_identifier>
<Count_of_audio_streams>1</Count_of_audio_streams>
<Audio_Format_List>PCM</Audio_Format_List>
<Audio_Format_WithHint_List>PCM</Audio_Format_WithHint_List>
<Audio_codecs>PCM</Audio_codecs>
<Complete_name>/var/archivematica/sharedDirectory/watchedDirectories/workFlowDecisions/extractPackagesChoice/AudioSampleFiles-e2acffce-3030-4b9c-87fc-4f64b09f5cc3/objects/ARCH240667_a.wav</Complete_name>
<Folder_name>/var/archivematica/sharedDirectory/watchedDirectories/workFlowDecisions/extractPackagesChoice/AudioSampleFiles-e2acffce-3030-4b9c-87fc-4f64b09f5cc3/objects</Folder_name>
<File_name>ARCH240667_a</File_name>
<File_extension>wav</File_extension>
<Format>Wave</Format>
<Format>Wave</Format>
<Format_Extensions_usually_used>wav</Format_Extensions_usually_used>
<Commercial_name>Wave</Commercial_name>
<Internet_media_type>audio/vnd.wave</Internet_media_type>
<Codec>Wave</Codec>
<Codec>Wave</Codec>
<Codec_Extensions_usually_used>wav</Codec_Extensions_usually_used>
```



# Normalize

**archivematica** Transfer **Ingest**<sup>1</sup> Archival storage Preservation planning Access Administration tim.walsh ▾

Any Keyword Search transfer backlog

[Add New](#)

originals

Hide View File

arrange

Delete Create SIP Edit Metadata Add Directory

Submission Information Package	UUID	Ingest start time	
AudioSampleFiles	620e7395-ab0e-478a-8cbb-70cb840c3e4d	2016-11-21 11:50	
Micro-service: Normalize			
Job: Normalize [?]	Awaiting decision		<div>Actions</div> <div>Actions</div> <div>Normalize for preservation and access</div> <div>Normalize for preservation</div> <div>Reject SIP</div> <div>Normalize service files for access</div> <div>Do not normalize</div> <div>Normalize manually</div> <div>Normalize for access</div>
Job: Resume after normalization file identification tool selected.	Completed successfully		
Job: Identify file format	Completed successfully		
Job: Select pre-normalize file format identification command	Completed successfully		
Job: Move to select file ID tool	Completed successfully		
Job: Grant normalization options for no pre-existing DIP	Completed successfully		
Job: Set remove preservation and access normalized files to renormalize link.	Completed successfully		
Job: Check for Access directory	Completed successfully		
Job: Check for Service directory	Completed successfully		
Job: Identify manually normalized files	Completed successfully		
Micro-service: Clean up names			
Micro-service: Remove cache files			
Micro-service: Include default SIP processingMCP.xml			
Micro-service: Rename SIP directory with SIP UUID			
Micro-service: Verify transfer compliance			
Micro-service: Verify SIP compliance			

File name	File format	Preservation normalization attempted	Preservation normalization failed	Already in preservation format	Access normalization attempted	Access normalization failed	Already in access format
<a href="#">ARCH240667_a.wav</a>	BWAVE PCM 1	No	No	No	Yes	No	No
<a href="#">Chicano_Batman_-_08_-_Para_Agradecer.mp3</a>	MPEG 1/2 Audio Layer 3	Yes	No	No	Yes	No	No
<a href="#">ARCH240667_b.wav</a>	BWAVE PCM 1	No	No	No	Yes	No	No



# Describe

**archivematica** Transfer **Ingest** <sup>1</sup> Archival storage Preservation planning Access Administration tim.walsh ▾

Any ▾ Keyword ▾

[Add New](#)

▸ originals

Hide View File

▸ arrange

Delete Create SIP Edit Metadata Add Directory

Submission Information Package	UUID	Ingest start time
AudioSampleFiles	620e7395-ab0e-478a-8cbb-70cb840c3e4d	2016-11-21 11:50
▸ Micro-service: Add final metadata		
Job: Reminder: add metadata if desired	Awaiting decision	Actions ▾
Job: Move to metadata reminder	Completed successfully	
▸ Micro-service: Process manually normalized files		
▸ Micro-service: Normalize		
▸ Micro-service: Clean up names		
▸ Micro-service: Remove cache files		
▸ Micro-service: Include default SIP processingMCP.xml		
▸ Micro-service: Rename SIP directory with SIP UUID		
▸ Micro-service: Verify transfer compliance		
▸ Micro-service: Verify SIP compliance		

[Ingest](#) / [AudioSampleFiles](#) / [Metadata](#) / [Add](#)

# Metadata

## AudioSampleFiles

**Title:****Part of AIC:**

Optional: leave blank if unsure

**Creator:****Subject:****Description:****Publisher:****Contributor:****Date:**

Use ISO 8601 (YYYY-MM-DD or YYYY-MM-DD/YYYY-MM-DD)

# RESULTS

---

Downloads

twalsh

Search

Downloads

twalsh

+

Favorites

Dropbox

AirDrop

All My Files

iCloud Drive

Applications

Desktop

Documents

Downloads

twalsh

Pictures

Music

Devices

LAP-035-14

Macintosh HD

Remote Disc

Shared

svrdam

svrdata

All...

Tags

Red

Orange

Yellow

Green

Blue

Purple

Gray

Name	Size	Kind	Date Added
AudioSampleFiles-620e7395-ab0e-478a-8cbb-70cb840c3e4d	--	Folder	Today, 12:20 PM
bag-info.txt	70 bytes	Plain Text	Today, 12:23 PM
bagit.txt	55 bytes	Plain Text	Today, 12:23 PM
data	--	Folder	Today, 12:20 PM
logs	--	Folder	Today, 12:23 PM
fileFormatIdentification.log	858 bytes	Log File	Today, 12:23 PM
transfers	--	Folder	Today, 12:23 PM
AudioSampleFiles-d3b7fee7...-443b-81ef-6ad5b8cb9f84	--	Folder	Today, 12:23 PM
logs	--	Folder	Today, 12:23 PM
checksum.md5-Check-...v 21 16/50/01 UTC 2016	516 bytes	TextEd...ument	Today, 12:23 PM
fileFormatIdentification.log	2 KB	Log File	Today, 12:23 PM
METS.620e7395-ab0e-478a-8cbb-70cb840c3e4d.xml	349 KB	XML Document	Today, 12:23 PM
objects	--	Folder	Today, 12:20 PM
ARCH240667_a.wav	1.65 GB	Wavef...m audio	Today, 12:20 PM
ARCH240667_b.wav	1.67 GB	Wavef...m audio	Today, 12:22 PM
Chicano_Batman_-_08_-_Para...cd-9508-6849cc62e72a.wav	50.5 MB	Wavef...m audio	Today, 12:23 PM
Chicano_Batman_-_08_-_Para_Agradecer.mp3	9.1 MB	MP3 audio	Today, 12:20 PM
metadata	--	Folder	Today, 12:23 PM
transfers	--	Folder	Today, 12:23 PM
AudioSampleFiles-d3b7fe...443b-81ef-6ad5b8cb9f84	--	Folder	Today, 12:23 PM
checksum.md5	210 bytes	Document	Today, 12:23 PM
directory_tree.txt	247 bytes	Plain Text	Today, 12:23 PM
submissionDocumentation	--	Folder	Today, 12:23 PM
transfer-AudioSampleFiles-d...-443b-81ef-6ad5b8cb9f84	--	Folder	Today, 12:23 PM
ARCH240667_a.wav.meta.xml	20 KB	XML Document	Today, 12:23 PM
ARCH240667_b.wav.meta.xml	17 KB	XML Document	Today, 12:23 PM
ARCH240667.JPG	863 KB	JPEG image	Today, 12:23 PM
METS.xml	40 KB	XML Document	Today, 12:23 PM
thumbnails	--	Folder	Today, 12:23 PM
b1a95d61-7cff-4ab6-8402-4f380a0188d4.jpg	1 KB	JPEG image	Today, 12:23 PM
cbcaf9ab-9081-4606-b9e3-751652342d49.jpg	1 KB	JPEG image	Today, 12:23 PM
d3d0bcd5-8d42-4fec-9ec7-7568aaa054d7.jpg	1 KB	JPEG image	Today, 12:23 PM
manifest-sha512.txt	4 KB	Plain Text	Today, 12:23 PM
tagmanifest-md5.txt	145 bytes	Plain Text	Today, 12:23 PM
AudioSampleFiles-620e7395-ab0e-478a-8cbb-70cb840c3e4d.7z	2.68 GB	Document	Today, 12:20 PM

# Download DIP

[Ingest](#) / AudioSampleFiles

## ▼ uploadedDIPs

▶ aitest-2226028b-8361-4c39-8a56-ecc8d2ded258

## ▼ AudioSampleFiles-620e7395-ab0e-478a-8cbb-70cb840c3e4d

METS.620e7395-ab0e-478a-8cbb-70cb840c3e4d.xml

## ▼ objects

b1a95d61-7cff-4ab6-8402-4f380a0188d4-Chicano\_Batman\_-\_08\_-\_Para\_Agradecer.mp3

cbcaf9ab-9081-4606-b9e3-751652342d49-ARCH240667\_a.mp3

d3d0bcd5-8d42-4fec-9ec7-7568aaa054d7-ARCH240667\_b.mp3

processingMCP.xml

## ▼ thumbnails

b1a95d61-7cff-4ab6-8402-4f380a0188d4.jpg

cbcaf9ab-9081-4606-b9e3-751652342d49.jpg

d3d0bcd5-8d42-4fec-9ec7-7568aaa054d7.jpg

```

- <mets:mets xsi:schemaLocation="http://www.loc.gov/METS/ http://www.loc.gov/standards/mets/version18/mets.xsd">
  <mets:metsHdr CREATEDATE="2016-11-21T17:01:25"/>
- <mets:dmdSec ID="dmdSec_1">
  - <mets:mdWrap MDTYPE="DC">
    - <mets:xmlData>
      - <dcterms:dublincore xsi:schemaLocation="http://purl.org/dc/terms/ http://dublincore.org/schemas/xmls/qdc/2008/02/11/dcterms.xsd">
        <dc:title>Example title</dc:title>
        <dc:creator>Creator, Sample</dc:creator>
      - <dc:description>
        Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
        </dc:description>
        <dc:publisher>Centre Canadien d'Architecture</dc:publisher>
        <dc:date>2006-01-18/2006-02-04</dc:date>
        <dc:type>Archival Information Package</dc:type>
      </dcterms:dublincore>
    </mets:xmlData>
  </mets:mdWrap>
</mets:dmdSec>
- <mets:amdSec ID="amdSec_1">
  - <mets:techMD ID="techMD_1">
    - <mets:mdWrap MDTYPE="PREMIS:OBJECT">
      - <mets:xmlData>
        - <premis:object xsi:type="premis:file" xsi:schemaLocation="info:lc/xmlns/premis-v2 http://www.loc.gov/standards/premis/v2/premis-v2-2.xsd" version="2.2">
          - <premis:objectIdentifier>
            <premis:objectIdentifierType>UUID</premis:objectIdentifierType>
            <premis:objectIdentifierValue>cbcaf9ab-9081-4606-b9e3-751652342d49</premis:objectIdentifierValue>
          </premis:objectIdentifier>
          - <premis:objectCharacteristics>
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          - <premis:fixity>
            <premis:messageDigestAlgorithm>sha256</premis:messageDigestAlgorithm>
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          </premis:messageDigest>
          </premis:fixity>
          <premis:size>1652215718</premis:size>
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              <premis:formatVersion/>
            </premis:formatDesignation>
            - <premis:formatRegistry>
              <premis:formatRegistryName>PRONOM</premis:formatRegistryName>
              <premis:formatRegistryKey>fmt/704</premis:formatRegistryKey>
            </premis:formatRegistry>
          </premis:format>

```

# And getting better for A/V all the time!



---

## Example 4: Improving A/V handling

- Currently, Archivematica models objects down to the level of the file.
  - With the introduction of MediaConch, we're interested in modeling down to bitstreams to show the different tracks/stream within an a/v file.
-

# Providing access to temporal media





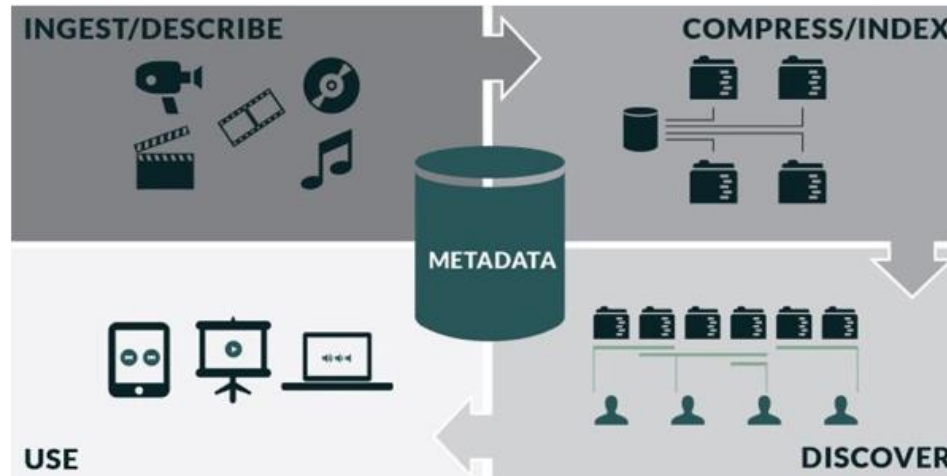
# Introduction to Avalon Media System

avalon

MEDIA SYSTEM

DEMO: <https://pawpaw.dlib.indiana.edu/>

<http://www.avalonmediasystem.org/>

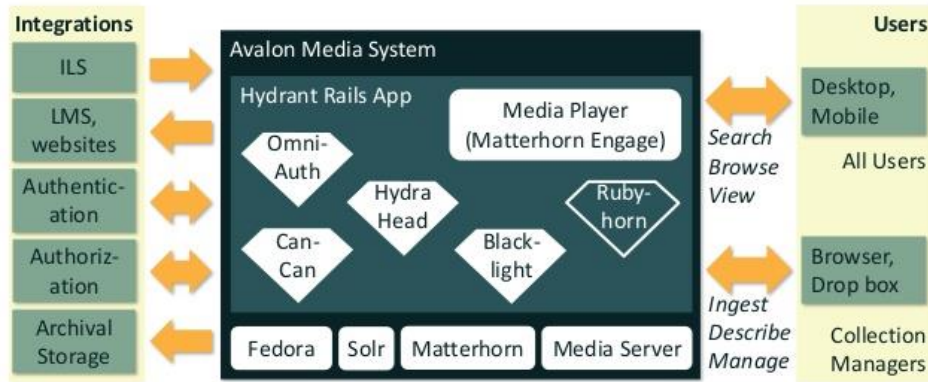


# Avalon Media System: key features

- Supports for relationships between digital objects
  - Units (Library Special Collections, COHDS, etc.)
    - Collections (Irving Layton Collection, Voices of Little Burgundy)
      - Items (e.g., “The Birth of Tragedy”)
        - Sections (e.g., “Layton’s Introduction”, “Layton recites ‘The Birth of Tragedy’”
          - Hyperlinked labelled time-stamped start points (e.g. cite a passage: “This world is made of contradictions”)
- Sophisticated access and permissions control at collection and item levels
- Robust metadata support, faceted discovery
- Playlists (items and clips, public or private)
- Captions/subtitles
- Integration with [HydraDam2](#) preservation tool ([github](#))
- Integration with Spotlight exhibition tool (in Release 7)

# Technological architecture

## Avalon Architecture



- Avalon code – consists of Hydrant Rails App and the Rubyhorn gem. Other pieces are leveraged.

# Our rationale for choosing Avalon

- Our content: humanities qualitative research data in audio/video format
- Acknowledge audio as a discrete format (Variations)
- Open source
- Concerned with preservation
- Development and user community
- Modular
- Experienced team (Variations)
- “Least worst” option

# Types of audio content (Mark R. Roosa)

1. Linguistic
2. Folklore
3. Oral history
4. Ethnographic
5. Dialectic
6. Music
7. Ethnomusicology
8. Bioacoustic (e.g. orthinology, etc.)

# Adding content to Avalon

- Ingest:
  - From Archivematica
  - Or direct through Avalon

# Create Collection



## Name

Irving Layton Colleciton

## Description

Irving Layton fonds consists of records relating to Layton's life and activities as a writer. Records include correspondence between family members, professionals, friends, newspapers and periodicals, colleges and universities, reviews of Layton's works, fan letters, published material, offprints of poems, transcripts of interviews, publicity for public appearances and readings, reviews of his works, foreign language articles, manuscripts and drafts of monographs and poems, transcripts of interviews, newspaper clippings, notebooks, journals, calendars, schedules, agendas, personal papers including bills, invoices, finances, awards and certificates, and audio visual material.



## Unit

University Archives



Create Collection

Cancel

Browse Manage Content Manage Selected Items (0) Playlists

Search

# Irving Layton Collection

**Description:** Irving Layton fonds consists of records relating to Layton's life and activities as a writer. Records include correspondence between family members, professionals, friends, newspapers and periodicals, colleges and universities, reviews of Layton's works, fan letters, published material, offprints of poems, transcripts of interviews, publicity for public appearances and readings, reviews of his works, foreign language articles, manuscripts and drafts of monographs and poems, transcripts of interviews, newspaper clippings, notebooks, journals, calendars, schedules, agendas, personal papers including bills, invoices, finances, awards and certificates, and audio visual material.

Unit: University Archives

Create An Item List All Items Edit Collection Info

Or learn how to create items using batch upload.

## Assign Staff Roles

### Manager\* ⓘ

Sterling Archer

Add

jared.wiercinski@concordia.ca

### Editor\* ⓘ

Cyril Figgis

Add

### Depositor\* ⓘ

Barry Dillon

Add

## Set Default Access Control for New Items

### Item discovery

☐ Hide this item from search results

### Item access

☒ Available to the general public

☐ Logged in users only

☐ Collection staff only

Assign special access

### Avalon User\* ⓘ

Add

### Avalon Group\* ⓘ

Add

### External Group\* ⓘ

Add

### IP Address or Range\* ⓘ

Add

Save Access Settings



# Create an item

Browse

Manage Content

Manage Selected Items (0)

Manage file(s)

Associated bitstreams

Resource description

Metadata about the item

Structure

Organization of resources

Access Control

Who can access the item

Preview

How end users see the item

Delete this item

Videos about music technology > Untitled item

Manage file(s)

Upload through the web

Uploaded files must not exceed 250 MB

Select file

Import from a dropbox

Use the dropbox to import large files. Attach selected files after uploading. Files will begin processing when you click Save and continue.

Open Dropbox

Dropbox location: `sftp://pawpaw.dlib.indiana.edu/var/avalon/dropbox/Videos_about_music_technology`  
Contact your system administrator for more information.

Save

Save and continue

## Resource description

Fields followed by an asterisk (\*) are required.

### Bibliographic ID



### Title\*

Living Stereo

### Main contributor(s)\*

Handy (Jam) Organization

### Publication date\*

1958

### Creation date

### Summary

Ken Smith sez: RCA Victor introduces "a miracle" -- the Orth Banks, an RCA executive, hosts this film. Best scene: An ani groove.

### Contributor(s)

### Publisher(s)

### Language(s)

### Physical Description

Mpeg 4 file

### Related Item(s)

archive.org

<https://archive.org/de>

### Genre(s)

### Subject(s)

### Time period(s)

### Location(s)

### Permalink

### Terms of Use


### Table of Contents



### Note(s)

General Note 



General Note 



- General Note
- Awards
- Bibliographical/Historical Note
- Creation/Production Credits
- Language Note
- Local Note
- Performers
- Statement of Responsibility
- Venue/Event Date

Manage file(s)

Associated bitstreams

Resource description

Metadata about the item

Structure

Organization of resources

Access Control

Who can access the item

Preview

How end users see the item

Delete this item

Irving Layton Colleciton > Jared test

## Access Control

### Item discovery

☐ Hide this item from search results

### Item access

☐ Available to the general public

☐ Logged in users only

☒ Collection staff only

### Assign special access

Avalon User\* 

Begin Date

Begin Date (yyyy-mm-dd)

End Date

End Date (yyyy-mm-dd)

Add

Avalon Group\* 

Begin Date

Begin Date (yyyy-mm-dd)

End Date

End Date (yyyy-mm-dd)

Add

External Group\* 

Begin Date

Begin Date (yyyy-mm-dd)

End Date

End Date (yyyy-mm-dd)

Add

IP Address or Range\* 

Begin Date

Begin Date (yyyy-mm-dd)

End Date

End Date (yyyy-mm-dd)

Add

Save

Save and continue

[Browse](#) [Manage Content](#) [Manage Selected Items \(0\)](#) [Playlists](#)

## Fedora Objects

- Jared test (avalon:9702)
  - Jared Prophet 5 bass jam.wav (avalon:9703)
    - high (avalon:9704)
    - medium (avalon:9705)

Unpublish Edit Delete



## 1. Introducing stereophonic phonograph records (07:42)

1. somewhere in the beginning (00:40)
2. somewhere towards the end (01:02)

## 2. Triumph in tape (15:06)

## RCA Videos

### Date

1958 (Creation date: 1958)

### Summary

Public domain videos from Archive.org Ken Smith sez: RCA introduces the tape cas ahead of its time. What makes this film enjoyable is that the cassettes are pastel pr as a brick. A companion film to Living Stereo (they were shot at the same time), this interesting because of its bizarre product. Some references to 8-tracks and auto-re Smith sez: RCA Victor introduces "a miracle" -- the Orthophonic, high-fidelity, home Banks, an RCA executive, hosts this film. Best scene: An animated POV ride throu record groove.

### Publisher

RCA

### Collection

Videos about music technology

### Unit

Music Library

### Language

Creoles and Pidgins, English-based (Other)

### Terms of Use

Public domain

### Related Items

archive.org, archive.org

### Notes

CONTENTS

Share

Expand All

Ken Smith sez: RCA Victor introduces "a miracle" -- the Orthophonic, high-fidelity, h Bob Banks, an RCA executive, hosts this film. Best scene: An animated POV ride th stereo record groove.

Bob Banks, marketing manager of radios and Victrola division narrates the new feat "living stereo" stylus and record album grooves.

Victrolas, static shots of victrolas to demonstrate left and right-hand section of orchi predominating creating fullness of "living stereo".

Animation illustrating one track groove to "living stereo" groove.

Shot of couple listening to living sound on their victrola stereo.


animation of traveling on the stylus " . . . you are going on a ride on the diamond tip" plunges down a canyon of sound"

Animation sequence of RCA Victor dog "flapper" raising his ears

08:04:27

Public domain and copyright notices

# Spotlight digital exhibition tool

 STANFORD UNIVERSITY LIBRARIES Sign in

## Online Exhibits

Notable collections showcased by Stanford librarians, archivists, and other curators

All


Arts & Humanities

Government & Society


Maps & Geography

Science & Engineering


Stanfordiana




David Rumsey Map Center



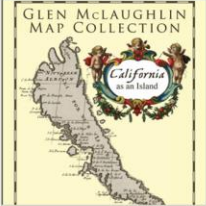
Herbert Matter: Modernist Photography and Graphic Design




Rare Music Materials at Stanford



Helen Mayer Harrison and Newton Harrison



California as an Island in Maps



The Bob Fitch Photography Archive

### See also

- [Digital collections in SearchWorks](#)
- [Older collection exhibits](#)
- [Special Collections & University Archives](#)
- [Giving to SUL](#)

# Alternatives to Avalon: Islandora



## BCA-011: Berklee Oral History Project interview collection

The Berklee Oral History Project (BOHP) began as a Stan Getz Library initiative in August 1998, relaunching in 2005 after a brief hiatus. With the exception of the first three interviews (conducted by Library staff members) and the occasional panel, the vast majority of interviews have been carried out by journalist and Berklee College of Music faculty member Fred Bouchard. Bouchard holds a B.A. from Boston College and is currently an associate professor in Berklee's department of liberal arts. He has written for publications such as Down Beat, Jazz Times, All About Jazz, the Boston Herald, the Boston Phoenix, the Boston Globe, the Patriot Ledger, and Jazz Journal International.

In 1998, the Stan Getz Library at Berklee College of Music established an oral history program devoted to documenting the lives of musicians who have made significant contributions to the music world as well as the Berklee College of Music community. The oral history project aims to chronicle the rich and diverse history of Berklee and Boston music from those who have lived, shaped and defined it. The interviewees discuss their time spent at Berklee College of Music; their performances in and around Boston; and their experiences learning and playing music. Topics include jazz history, the Boston jazz community, musical education, the early development of the Berklee College of Music. The collection includes born-digital audio visual recordings of interviews conducted by the Berklee Oral History Project. Also included are transcripts of all of the interviews and biographical sketches for some of the interviewees.

1 2 3 4 5 > » [Grid view](#) | [List view](#)



[An Interview with Al Natale](#)



[An Interview with Al Vega](#)



[An Interview with Allison Plante & Dan Carlin](#)



[An Interview with Allan Chase - Part 1 - September 23, 2009](#)

# Islandora Oral History Solution Pack



Found 3 sentences

- 0:48 ལས་ཁུངས་ཀྱི་གསང་སྤྱོད་ཀྱི་ཕྱོགས་དུས་ལྟར།
- 0:57 གསང་སྤྱོད་ཀྱི་ཕྱོགས་ལོ་གཞི་དུས་ལྟར་ལོ། ལ་ཡང་ལ་བཏང་སྤྱོད་ལོ།
- 0:58 གསང་སྤྱོད་ཀྱི་ཕྱོགས་ལོ་གཞི་དུས་ལྟར་ལོ།

zia sgron lags རེ་འིང་གསལ་ཡག་པོར་ཅིག་། འདྲ་ཅིག་མི་འདྲག་གསལ།  
de ring gnam yag po ra cig ('dra cig)mi 'dug gas/  
Isn't it a nice day today?  
今天的天气多好啊，是吧！

phur sgron lags འོང་རེད་ཞག ང་ཡིད་། ཡང་ལས་ཁུངས་ལ་བཞུགས་བཞུགས་ལོ།  
'ong red zhag nga ya'i (yang )gnam la bitas bsdad yod/  
Yes, it is. I've also been looking at the sky.  
是啊，我也在往天上看呢。

zia sgron lags འཕྲིན་ཡིད་། ཡང་ལས་འཕྲིན་ འཕྲིན་ཡིད་། ཡང་ལས་འཕྲིན་ རྟག་རྟག་རེད་ འདྲག་གསལ།  
'tshig ya'i (yang )ma 'tshig\_khyag ya'i (yang )ma 'khyag\_tag tag red 'dug ga  
It's not too hot, and not too cold. It's just right, isn't it?  
不热不冷，正好，是吧！

phur sgron lags རྒྱུད་པོ་ཅིག་འདྲག་གསལ།  
skyid po cig 'dug\_  
It's pleasant.  
很舒服

phur sgron lags རེ་འིང་གསལ་ཡག་པོར་ཅིག་།



# Alternatives to Avalon: Pinedrop (Custom Web Solutions and Research Tools)

□ / AUDIO-VIDEO

EXPLORE □

ENGLISH □

## □ Tibetan and Himalayan Library

Audio-Video: Tibetan And Himalayan Library



The [Tibetan and Himalayan Library \(THL\)](#) is a publisher of websites, information services, and networking facilities relating to the Tibetan plateau and southern Himalayan regions. One of THL's central foci has been the creation and creative dissemination of audio-video collections with the goal of documenting oral and embodied forms of knowledge in Tibet and the Himalayas, as well as helping facilitate self-representation by residents of the region. THL both creates original audio-video recordings, and helps disseminate the films of others. All items are dynamically linked to geographical maps as well as to knowledge maps of cultural subjects. [Read more](#) about THL or [explore THL](#) beyond the audio-video collections.

### Items in this collection

The list below includes items from this Collection's Subcollections.

(Displaying 1 - 60 Of 3210)

- ANY - □

POST DATE DESC □

□ □ PAGE 1 OF 54 □ □



#### Making of an Arga Roof

□ 01 Jun 2016  
□ 24 min 13 sec  
□ am5kh

Tibetan and Himalayan Library



#### test folksong

□ 18 Oct 2016  
□ 1 min 53 sec  
□ Bradley Aaron

Xining Office



#### Ardent Praise for the Azure Sky

□ 30 Mar 2016  
□ 2 min 26 sec  
□ Drolmatso

Nomadic Folk Songs from Sich...



#### The Mountain Peak is Covered with Juniper

□ 30 Mar 2016  
□ 1 min 30 sec  
□ Drolmatso

Nomadic Folk Songs from Sich...

### Owner

○ dfg9w

### Visibility

This collection is Public - accessible to the general public

### Subcollections

- Chengdu Office
- Nomadic Folk Songs from Sichuan Project
- Oral Bhutan
- Rebong Folk Songs Project
- Rebong Folktales Project
- Xining Office
- Xunhua Tibetan Folk Culture Series

### Members

## Details

## Related Audio-Video

### - DETAILS

**COLLECTION:** [Tibetan and Himalayan Library](#)

**SUBCOLLECTION** [Folk songs \(glu\)](#)

**SUBJECT** [roof](#)

**LOCATION** [Gyümepa](#) [Jokhang](#) [Samyé Gön](#)

### + PEOPLE

### + RIGHTS & LICENSING

### + AVAILABILITY & ACCESS

### + TECHNICAL METADATA

### + WORKFLOW



## WORKFLOW

**VIDEO QUALITY ACCEPTABLE:** Yes

**AUDIO QUALITY ACCEPTABLE:** Yes

**MEDIA NEEDS RECOMPRESSION:** No

**MEDIA NEEDS RE-EDITING:** Not Reviewed

**LOGGING FILES/EDLS ARCHIVED:** Not Reviewed

**MASTERS ARCHIVED:** Not Reviewed

**MEDIA PROBLEM #1:** Not Reviewed

**MEDIA PROBLEM #2:** Not Reviewed

**MEDIA PROBLEM #3:** Not Reviewed

**BASIC CATALOGING:** Yes

**PLACE DATA PRESENT:** Yes

**CATALOGING PROOFED:** Not Reviewed

**TRANSLATION LANGUAGE 1:** Not Reviewed

**TRANSLATION LANGUAGE 2:** Not Reviewed

**TIMECODE TOO INFREQUENT:** Not Reviewed

**TIMECODING PROBLEM 1:** Not Reviewed

**TIMECODING PROBLEM 2:** Not Reviewed

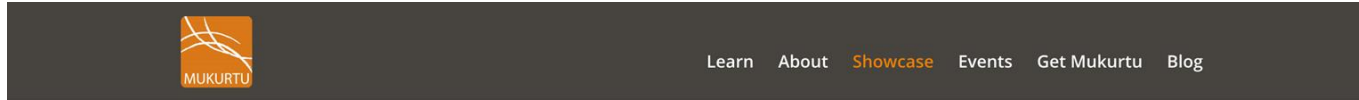
**TRANSLATION INPUT LANGUAGE 3:** Not Reviewed

**TRANSLATION PROOFED LANGUAGE 1:** Not Reviewed

**TRANSLATION PROOFED LANGUAGE 2:** Not Reviewed

**TRANSLATION PROOFED LANGUAGE 3:** Not Reviewed

# Alternatives to Avalon: Mukurtu



## The Mukurtu Community

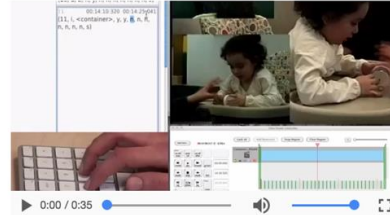


# Alternatives to Avalon: Databrary & Datavyu



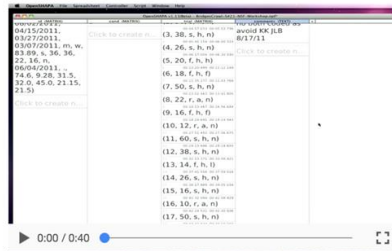
## View multiple data streams

Datavyu supports multiple data streams—video, audio, physiology, motion tracking, eye tracking—and links them together with a flexible, extensible coding spreadsheet that enables time-locked coding and visualization.



## Record observations

Keyboard shortcuts and user-defined scripts let you navigate quickly and iteratively through data streams, adding comments, codes, and interpretations. Utterly flexible, user-defined codes enable researchers with widely differing needs to use the same tools.



## Automate data extraction, analysis

Script higher-order analyses in Ruby or export data for statistical analysis. Scripting also ensures that multi-step data cleaning or manipulation procedures run the same way every time, increasing data reliability and reducing errors.



## Build on prior analyses

By adding new data columns, you can build on prior work. Enhance it. Compare reliability between coders.

# Conclusion



# Digital Preservation References

- REFERENCE MODEL FOR AN OPEN ARCHIVAL INFORMATION SYSTEM (OAIS)  
<http://public.ccsds.org/publications/archive/650x0m2.pdf>
- PREMIS Data Dictionary for Preservation Metadata <http://www.loc.gov/standards/premis/>
- The Technical Registry PRONOM <http://www.nationalarchives.gov.uk/PRONOM/>
- International Association of Sound and Audiovisual Archives: Guidelines in the Production and Preservation of Digital Audio Objects <http://www.iasa-web.org/tc04/audio-preservation>
- Trustworthy Repositories Audit & Certification: Criteria and Checklist  
[http://www.crl.edu/sites/default/files/d6/attachments/pages/trac\\_0.pdf](http://www.crl.edu/sites/default/files/d6/attachments/pages/trac_0.pdf)
- Digital Preservation Management: Implementing Short-term Strategies for Long-term Problems  
<http://www.dpworkshop.org/dpm-eng/terminology/strategies.html>
- Archivemata <https://www.archivemata.org/en/>
- MediaInfo <https://mediaarea.net/en/MediaInfo>
- METS: Metadata and Encoding Transmission Standard <http://www.loc.gov/standards/mets/>

# Access and Dissemination References

- Avalon Media System <http://www.avalonmediasystem.org/>
- Spotlight <https://library.stanford.edu/projects/spotlight>
- Islandora <http://islandora.ca/>
- Developing oral histories in Islandora [http://program.or2015.net/jiang-developing\\_open\\_oral\\_histories\\_in\\_islandora-109\\_a.pdf](http://program.or2015.net/jiang-developing_open_oral_histories_in_islandora-109_a.pdf)
- Databrary <https://nyu.databrary.org/>
- Datavyu <http://datavyu.org/>
- Murkurtu <http://mukurtu.org/>
- Pinedrop <http://pinedrop.com/>